

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/903,113	HALL, DAVID L.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Christopher R. Magee	2653	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed 01/03/2005.
2. ☒ The allowed claim(s) is/are 1-7 and 16-18.
3. ☒ The drawings filed on 11 July 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

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|---|--|
| <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br/>Paper No./Mail Date _____</li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</li> <li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____</li> <li>7. <input type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____</li> </ol> |
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## DETAILED ACTION

### *Response to Amendment*

1. The reply filed 01/03/2005 was applied to the following effect: All relevant objections and rejections are withdrawn as being satisfied. Claims 8-15 are cancelled.

### *Reasons for Allowance*

2. Claims 1-7 and 16-18 are allowed (renumbered 1-10, respectively).

The following is an examiner's statement of reasons for allowance:

This application is for a SYSTEM AND METHOD OF INTRODUCING A PREFERENTIAL CURVATURE TO A FLEXIBLE MEDIUM FOR REDUCED MEDIUM VIBRATION AND SENSOR TO MEDIUM SPACING WITH A DISK DRIVE HEAD STACK ASSEMBLY HAVING A NON-ZERO STATIC ROLL ATTITUDE.

- **Claim 1** specifies a head stack assembly which requires:

*“the first head and the second head substantially parallel to each other and disposed at non-zero static roll angles,  $\theta_a$  and  $\theta_b$ , respectively from the plane of the flexible medium.”*

Jones et al. '085 do not show the first head [11] and second head [12] substantially parallel to each other and disposed at non-zero static roll angles,  $\theta_a$  and  $\theta_b$ , respectively from the plane of the flexible medium as taught by the claimed invention.

Gustafson et al. '488 show a single head that is parallel to the flexible medium with a non zero static roll angle.

Souda et al. '839 show a first and second head [20] substantially parallel to each other but does not teach or suggest the first and second head being disposed at non-zero static roll angles,  $\theta_a$  and  $\theta_b$ , respectively from the plane of the flexible medium. The heads [20] are disposed at non-zero dynamic pitch angles during recording/reproducing operations.

Therefore, these features, in combination with other features of claim 1, are not anticipated by, nor made obvious over, the closest prior art of record of Jones et al. (US 5,636,085), Gustafson et al. (US 5,473,488) and/or Souda et al. (US 6,388,839 B2).

- **Claim 16** specifies a method of reducing out-plane- vibration in a flexible medium which requires:

*“angling the first and second heads such that the first and second head remain substantially parallel but offset from the plane of the flexible medium by non-zero static roll angles of  $\theta_a$  and  $\theta_b$ .”*

Jones et al. '085 do not show angling the first and second heads such that the first and second head remain substantially parallel but offset from the plane of the flexible medium by non-zero static roll angles of  $\theta_a$  and  $\theta_b$  as claimed in the present invention.

Gustafson et al. '488 show a single head that is parallel to the flexible medium with a non zero static roll angle. Gustafson does not teach or suggest angling first and second heads to remain parallel to each other but offset from the plane of the flexible medium by non-zero roll angles.

Souda et al. '839 show a first and second head [20] substantially parallel to each other but does not teach or suggest the first and second head being disposed at non-zero static roll angles,

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$\theta_a$  and  $\theta_b$ , respectively from the plane of the flexible medium. The heads [20] are disposed at non-zero dynamic pitch angles during recording/reproducing operations.

Therefore, these features, in combination with other features of claim 16, are not anticipated by, nor made obvious over, the closest prior art of record of Jones et al. (US 5,636,085), Gustafson et al. (US 5,473,488) and/or Souda et al. (US 6,388,839 B2).

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Magee whose telephone number is (571) 272-7592. The examiner can normally be reached on M-F, 8: 00 am-5: 30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Christopher R. Magee

Patent Examiner

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May 30, 2005



WILLIAM KORZUCH

SUPERVISORY PATENT EXAMINER

TECHNOLOGY CENTER 2600